18 WCS Minutes Transmitted Streetside or as Pedestrian	20%	5%	20%	5%		
19 Time SDARS Vehicle Is Stopped (traffic light or jam)	40.0%	15.0%	18.0%	10.0%	2.0%	0.5%
20 Cars Going Moderately Faster or Slower than SDARS Car	7.0%	7.0%	25.0%	14.0%	25.0%	15.0%
21 (Average Speed Difference from SDARS Car, miles/hour)	3	5	4	6	5	6
22 Cars Going Much Faster or Slower than SDARS Car	1.0%	3.0%	12.0%	8.0%	14.0%	15.0%
23 (Average Speed Difference from SDARS Car, miles/hour)	6	8	8	10	10	12
Percentage of Pedestrians Walking in the Same (or						
24 Opposite) Direction as SDARS Vehicle	37.5%	30%	32%	27%		
(the Rest: Stationary, or Moving in Perpendicular Direction)						
25 Roads without Bike Lane & with Sidewalk Abutting Road	95%	70%	15%	2.5%		
26 Roads without Bike Lane or Sidewalk	2%	0%	12.5%	0%		
27 Chances Road Has Parked Vehicles (Legal or Illegal)	20%	50%	60%	80%		
(Frequently Enough to Disrupt Travel in Curb Lane)						
If One of an SDARS Vehicle and a Driver Holding a WCS						
Handset Passes the Other, in an Adjacent Lane,						
28Percentage of Time the WCS Vehicle Is to the Left:	30%	50%	40%	50%	40%	50%
Ratio of How Often SDARS Driver Prefers Another Lane						
29 to How Often SDARS Driver Prefers Curb Lane:	2.7	3.1	2.3	2.7	2.4	2.6
When Sidewalk Abuts Road without Bike Lane,						
30 Pedestrians Walking near Road	20%	15%	15%	7.5%		
31 (Average Distance from Curb, in feet)	1.5	3	0.3	0.5		
32 Pedestrians Walking in Segment Further from Road	50%	5%	15%	7.5%		
33 (Average Distance from Curb, in feet)	4.6	5	0.7	1		
34 Pedestrians Walking in Segment Closest to Buildings	30%	80%	70%	85%		
35 (Average Distance from Curb, in feet)	6.8	6	1.4	1.5		

## Ronald M. HARSTAD

## Curriculum Vitae

## August 1996

RUTCOR

Rutgers University

New Brunswick, NJ 08903-5062 USA

E-Mail: harstad@rutcor.rutgers.edu

Office: 908.445.0266 or ..4091, ..5472 fax

FOM Office: 201.648.1145, ..1233 fax Home, (voice & fax): 804.323.4404

Home, (also voice): 804.323.4494

Home address:

1713 Winding Way

Richmond, Va 23235-4545 USA

Born January 10, 1951, USA

Married to Paula Burdon Harstad, three children

Education:

University of Pennsylvania: Ph.D. in Economics, 1977

Michigan State University: B.A. (mcl) in Economics and the Honors College, 1973

Current Affiliations:

Rutgers University

Associate Professor of Economics, Faculty of Management, 1993-

Fellow, RUTCOR (Rutgers Center for Operations Research), 1992-

Associate, Center for Research in Regulated Industries, 1993-

Member, Graduate Faculties, New Brunswick and Newark, 1993-

International Journal of Game Theory

Member, Editorial Board, 1992-

Area Editor, "Games and Experiments", 1995-

Journal's sole autonomous area editor

Journal of Regulatory Economics

Member, Editorial Board, 1993-96

Research Fields (Journal of Economic Literature classifications):

Game Theory, Laboratory Economics, Auctions (C7, C9, D8, D4, L1, H4)

Teaching Specialties:

Microeconomic Theory, Industrial Organization, Public Finance

Consulting:

Bidding consultant to SBC Communications and Southwest Bell Mobile Systems, radio spectrum auctions (FCC PCS MTA), 1994-95

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#### Grants:

1993 Co-Principal Investigator, National Science Foundation grant, SBR 93-09333, "Enriched Modeling of Auctions and Bidding," (with M. H. Rothkopf).

1991 Co-Principal Investigator, National Science Foundation grant, SES 91-08551, "Enriched Modeling of Auctions and Bidding," (with M. H. Rothkopf), funded for two years.

1984 Co-Principal Investigator, National Science Foundation grant, IST 84-08396, "The Role of Information and Information Processing in Auctions: Theory and Experimentation," (with J. H. Kagel and D. Levin), funded for two years.

1979 Project Director, National Science Foundation grant, SES 79-15356, "Interactive Behavior Experimentation," (with J. K. Murnighan, A. E. Roth, F. Schoumaker), renewed 1980, 1981, 1982.

#### Publications:

## Refereed Articles:

"Withdrawable Bids as Winner's Curse Insurance" (with M. H. Rothkopf), *Operations Research*, 43 (1995), 983-94.

"Comparative Static Effects of Number of Bidders and Public Information on Behavior in Second-Price Common-Value Auctions" (with J. H. Kagel and D. Levin), International Journal of Game Theory, 24 (1995), 297-319.

"Two Models of Bid-Taker Cheating in Vickrey Auctions" (with M. H. Rothkopf), Journal of Business, 68 (1995), 257-67.

"Privately Informed Seekers of an Uncertain Rent," Public Choice, 83 (1995), 81-93.

"Modeling Competitive Bidding: A Critical Essay" (with M. H. Rothkopf), Management Science, 40 (1994), 364-84.

"On the Role of Discrete Bid Levels in Oral Auctions" (with M. H. Rothkopf), European Journal of Operational Research, 74 (1994), 572-81.

"Asymmetric Bidding in Second-Price, Common-Value Auctions," *Economics Letters*, 35 (1991), 249-52.

"Alternative Common-Value Auction Procedures: Revenue Comparisons with Free Entry," *Journal of Political Economy*, 98 (1990), 421-29.

"Equilibrium Bid Functions for Auctions with an Uncertain Number of Bidders" (with J. H. Kagel and D. Levin), *Economics Letters*, 33 (1990), 35-40.

"Information Impact and Allocation Rules in Auctions with Affiliated Private Values: A Laboratory Study" (with J. H. Kagel and D. Levin), *Econometrica*, 55 (1987), 1275-1304.

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"Symmetric Bidding in Second-Price, Common-Value Auctions" (with D. Levin), Economics Letters, 20 (1986), 315-19.

- "A Class of Dominance Solvable Common-Value Auctions" (with D. Levin), Review of Economic Studies, 52 (1985), 525-28.
- "Behavioral Explanations of Efficient Public Good Allocations" (with M. Marrese), Journal of Public Economics, 9 (1982), 367-83.
- "Implementation of Mechanisms by Processes: Public Good Allocation Experiments" (with M. Marrese), Journal of Economic Behavior and Organization, 2 (1981), 129-51.
- "Expected-Utility-Maximizing Price Search with Learning" (with A. Postlewaite), Management Science, 27 (1981), 75-80.

## Contributions to Refereed Volumes:

- "Futures Market Speculation When You Don't Know Who the Optimists Are" (with L. Phlips), pp. 63-78 in: W. Albers, W. Güth, P. Hammerstein, B. Moldovanu and E. van Damme (eds.), *Understanding Strategic Interaction Essays in Honor of Reinhard Selten*, Springer, Heidelberg, 1996.
- "Efficiency and Incentive Compatibility When Bidders Have Private Information about Competitors" (with M. H. Rothkopf and K. Waehrer), pp. 1-13 in: M. R. Baye (ed.), Advances in Applied Micro-Economics, Volume 6, Auctions, JAI Press, Greenwich, Ct., 1996.
- "Lottery Qualification Auctions" (with R. F. Bordley), pp. 157-83 in: M. R. Baye (ed.), Advances in Applied Micro-Economics, Volume 6, Auctions, JAI Press, Greenwich, Ct., 1996.
- "Common-Value Auctions with Independent Information: A Framing Effect Observed in a Market Game" (with W. Albers), pp. 308-36 in Volume II of: R. Selten (ed.), Game Equilibrium Models, Springer, Berlin, 1991.
- "Interaction Between Resource Extraction and Futures Markets: A Game-Theoretic Analysis" (with L. Phlips), pp. 289-307 in Volume II of: R. Selten (ed.), Game Equilibrium Models, Springer, Berlin, 1991.
- "Perfect Equilibria of Speculative Futures Markets" (with L. Phlips), pp. 157-74 in J. J. Gabszewicz, J.-F. Richard and L. A. Wolsey (ed.), Economic Decision-Making: Games, Econometrics and Optimisation Contributions in Honour of Jacques Dreze, Elsevier Science Publishers, 1990.

## Publications in an Editorial Capacity:

"Laboratory Investigations of Expectations in Games: The Amsterdam Papers," International Journal of Game Theory, forthcoming.

"Introduction to Methods, Morals and Markets," pp. 3-8 in Volume II of: R. Selten (ed.), Game Equilibrium Models, Springer, Berlin, 1991.

Contributions to Conference Volumes:

"Franchise Bidding with Vickrey Auctions" (with M. A. Crew), pp. 117-30 in M. A. Crew (ed.), *Innovative Approaches to Utility Regulation*, Kluwer Academic Publishers, 1992.

"Dual Ceteris Paribus Comparisons: Some Initial Thoughts on Laboratory Isolation of Equilibrium Forces in Auction Markets," pp. 173-83 in: R. Tietz, W. Albers and R. Selten (ed.), Modeling Bounded Rational Behavior in Experimental Games and Markets, Springer, Berlin, 1988.

Papers in Requested Revise-and-Resubmit Status:

"Computationally Manageable Combinational Auctions" (with M. H. Rothkopf and A. Pekec).

"Auction Form Preferences of Risk-Averse Bidtakers" (with K. Waehrer and M. H. Rothkopf).

"Franchise Bidding without Holdups: Utility Regulation with Efficient Pricing and Choice of Provider" (with M. A. Crew).

"Oligopolistic Manipulation of Spot Markets and the Timing of Futures Market Speculation" (with L. Phlips).

Papers Currently Submitted:

"Is Subsidizing Inefficient Bidders Actually Costly?" (with M. H. Rothkopf and Y. Fu).

"Experimental Design and Elicitation of Values" (with G. W. Harrison and E. E. Rutström).

"Combinational Auctions with Synergies" (with M. H. Rothkopf).

"Dominant Strategy Adoption, Efficiency, and Bidder's Experience with Pricing Rules."

"Efficiency of Area-Wide Oil Leasing with a Constrained Public Budget" (with M. H. Rothkopf).

Papers Currently Circulating for Comment, and in Preparation for Submission:

"Auctions with Endogenous Bidder Participation."

"An Alternating Recognition Model of English Auctions" (with M. H. Rothkopf).

"Competitive Bidding Magnifies Adverse Selection" (with R. F. Bordley).

"The Way It Is: Exercise of Governmental Monopoly Power Given a Distortive Tax System" (with M. H. Rothkopf).

"Reasoning without Common Knowledge of Reasoning."

Ronald M. Harstad 5

## Prior Appointments:

1987-1993 Virginia Commonwealth University Associate Professor of Economics

1983-1987 University of Houston

Assistant Professor of Economics

1981-1983 Texas A & M University

Assistant Professor of Economics

1977-1981 University of Illinois at Urbana-Champaign Assistant Professor of Economics

## Temporary Appointments:

1995, Fall University of Bonn, Germany

Visiting Research Professor of Economics (SFB 303)

1995-1996 University of Virginia

Visiting Research Professor of Economics

1993, Spring University of Bonn, Germany

Visiting Research Professor of Economics (SFB 303)

1992-1993 University of Mississippi

Visiting Associate Professor of Economics and Finance

1988, Spring University of Bielefeld, Germany

Guest Scientist, Center for Interdisciplinary Research "Game Theory in the Behavioral Sciences" Program

1980-1981 University of British Columbia

Visiting Assistant Professor of Economics

## Refereeing:

Referee in last 5 years on over 100 occasions for over 30 scholarly journals and societies, research foundations, and University tenure committees

Official Positions in Scholarly Organizations:

Economic Science Association:

Member, Task Force on the Creation of a Journal of Experimental Economics, 1991-93.

## **Econometric Society:**

Program Committee Member, 1983 Winter Meetings and 1979 Summer Meetings

# Public Choice Society:

Program Committee Member, 1980 and 1981 Annual Meetings

Midwest Mathematical Economics Society:

Conference Organizer, Fall 1978 Meetings

Ronald M. Harstad 6

# Dissertation Supervision:

Supervisor, co-supervisor or dissertation committee member in the 1990s for a dozen PhD students at universities in four nations

## Teaching Experience:

Both Graduate and Undergraduate: Mathematical Economics, Microeconomic Theory, Experimental Economics, Game Theory, Industrial Organization, Public Finance, Managerial Economics.

Graduate: Operations Research, Modeling and Analyzing Auctions and Bidding.

Undergraduate: Intermediate Microeconomics, Microeconomic Principles, Economics of Regulation.